Wojciech Cyrul

SOME PSYCHOLOGICAL ASPECTS OF KNOWLEDGE MANAGEMENT IN LEGAL PRACTICE

Law's appearance today will not be law's appearance tomorrow.[1]

M. Ethan Katsh

Introduction

The main purpose of this paper is to discuss some fundamental changes that occur in human cognition whenever a traditional knowledge management process is influenced by a new communication technology. Certain findings of experimental psychology and psycho-sociology makes it plausible to believe that the way in which information is processed or visualized influences both human cognition and human behaviour. Respectively, a comparative analysis of knowledge management strategies intrinsic for particular modes of communication will be conducted. On this foundation, I will discuss the importance of communication technology for the development of particular human capacities and practices. Finally, some examples will be presented to show the relevance of these findings for law. In particular, it will be examined how and why different modes of communication may determine the standards and evaluations both of legal knowledge and legal practice. However, taking into account the aim of the paper, the following argument will focus exclusively on those psychological aspects of knowledge management which could explain the impact of communication technology on the evolution of legal practices.

For the purpose of our analysis let me define knowledge management as a set of practices used to develop or acquire expertise and skills or to discover, categorize, elaborate and disseminate information about particular data. Such practices necessarily involve complex cognitive processes of the human mind, in which accessible signs are associated with each other and used in order to learn,

[1] M.E. Katsh, *Electronic Media and the Transformation of Law*, Oxford University Press, New York, Oxford 1989, p. 5.

communicate, make inferences or associations, draw conclusions or to make decisions. Respectively, knowledge management, as defined here, is inherently connected with those forms of psychical processes, which are determined by symbolic representations. A concrete meaning is assigned to a particular sign in a more or less conscious manner only in the course of information processing in a human mind. From this perspective, cognition is not a mental state, but a dynamic process during which knowledge is managed and elaborated. Therefore, cognition is dependent not only on the amount of information but also on the speed of its transmission and on both mental and physical mechanisms determining its selections, choice and availability. If so defined, cognition becomes immanently directed at and bound with both knowledge as a thing and knowledge as a flow.[2] In other words, it becomes associated with and dependent on what and how it refers to.

If cognition is defined as above, then it is determined not only by the natural perception and mental abilities of the individual but also by realities and processes, which constitutes the object of reflection. As a result, cognition and knowledge management become mutually dependant and both are determined by the method in which the phenomena are communicated and perceived. Therefore, they are conditioned not only by the physical ability to experience something, but also by the practice of making it meaningful in the context of pre-existing notions, images or emotions, which already tacitly or explicitly function in the mind. By the practice I mean a meaningful activity, or a set of meaningful activities, which build on knowledge, skills and competences, performed by human agents individually or in a group. Respectively, if practice means doing, acting or performing habitually, then it activates knowledge management processes and the development of skills. Consequently, practice implies the development of individuals who by practicing acquire certain competences. For a lawyer it means that the way we draft the law, the method how we interpret it and the manner in which we practice are both immanently linked with the problem of the mode of communication and knowledge management strategies employed in it. They influence – directly or indirectly – our perception of legal material and formal standards of its quality, reliability and value.

From the knowledge management perspective, producing and interpreting information can be a practice too. However, it is the case only if we talk about a particular activity of the body and the mind, which depends on knowledge, skills or competence, and which strives for excellence, or at least aims to meet certain pre-existing criteria of their quality. Thus, even if production and interpretation of law as such do not need to be necessarily a practice, they become one when an attempt is made to fix, categorize and cognize certain reality according to *a priori* established criteria, i.e. criteria implied by a legal epistemology. In conclusion, the practice of legal interpretation depends on cognitive processes, which in turn are determined by knowledge management strategies employed in legal communication. As argued above, knowledge management shall not be reduced exclusively to the cautious procedure of processing explicit information

[2] See D. Snowden, *Complex Acts of Knowing – Paradox and Descriptive Self Awareness*, "Journal of Knowledge Management" 2002, vol. 6 (2), pp. 100–111.

transmitted in communication processes. Therefore, legal interpretation (and legal drafting too) shall be seen as a technology dependent practice. That is, a practice whose standards are determined by a internal rationality and a capacity of a technology used to manage legally relevant information.

I can infer that my interest focuses less on cognition or practice as such, but rather on the question of whether a usage of different communication technologies may trigger special cognitive processes and strategies of knowledge management in legal practices. The relevance of this problem stems from the fact that since late 1980's legal practice has become more and more dependent on IT. The recognition of the usefulness of IT in the modernization of the administration of justice and legal services has brought on multiple changes in the form of legal practices. It is clearly visible when one compares the preparation or the elaboration of legal documents supported by word processing software, text retrieval engines and use of on-line electronic databases with traditional practices of legal drafting. Moreover, electronic media have not only enabled much more detailed and accurate record of legal discourses, but also changed the traditional contexts of their production. For example: we are now able to use on-line legal services, which has transformed the traditional directness of the lawyer–client relationship.

IT not only enables different modes of knowledge representation and the introduction of information processing technology but it extends the biological capacities of human agent. They provide growing analytical power and facilitate the processing of the complexity of a system of legal provisions. Contrary to speech, writing or print, IT is almost immune to the information overload so distracting for human perception of information and therefore its use redirects the focus of cognitive processes. Human agents can concentrate more on analyzing, revising and expanding legal information and less on issues concerning its transmission, storage and future accessibility. It suggests that a shift from handwriting and printing to IT may result in an important change in cognitive processes related with evaluation and choice of legally relevant information. Eventually IT not only requires a particular structuring of information but can also itself produce information surplus. This can alter the organization of information flow and content of legal provisions characteristic for hand written or printed documents. Moreover, it can challenge the traditional reliability and usefulness of print for promulgating law. For example, the emergence of writing enabled positive law to control the process of social change and to keep a link with the past. Especially after the emergence of print, writing helped law to promote stability which was considered to be a *condition sine qua non* of legal certainty and predictability. However, IT is able to promise both of them without the necessary stability and, therefore, urge law to adjust to current social needs.[3]

Information growth makes the problem of its accessibility and selection more relevant. When there is too much information it is not any more the lack of information that is problematic, but the choice of information from the available set. Information overload fosters the selectivity of our choices. Eventually it results

[3] R. Susskind, *The Future of Law: Facing the Challenges of Information Technology*, Claredon, Oxford 1996.

in the reduction of the original complexity of reality and supports specialization. Writing, print, and particularly IT provide different solutions for this problem. Consequently, they make the human practices dependent on different processes of structuring or researching information and pre-selection mechanisms. In this way, the inherent capacities of different channels of communication may influence the management of legal knowledge and therefore determine human judgments concerning the certainty, trustworthiness and correctness of his/her choices and decisions. After all, modern legal practice depends upon our capacity to compare and to verify our interpretations. Without knowing how to record information in a way which enables durable and easy access to it, an attempt to provide a logical and persuasive proof seems to be impossible, or at least very difficult.

Speech, writing, print, and IT offer not only alternative ways of processing information but they also involve different senses or the same in different ways. Therefore, they promote different strategies in knowledge management. Consequently, they establish different theoretical, practical, and esthetical criteria respectfully of rationality, correctness and appropriateness of communication. Experimental studies provide us with substantial evidence, which shows that communication technologies influence not only how texts are produced but also how they are interpreted.[4] Thus, even though each medium is a means used to communicate a message, different media will do it in a different way. They will employ different means to encode information, i.e. images, sound, letters or a combination of all or some of them. Therefore, different communication technologies set different conditions for both: cognitive processes and human practices, and they imply different standards and requirements of their quality. The degree to which they are satisfied influences effectiveness of communication, and consequently they impact on human behaviour. Thus the medium shapes, in an imperceptible way, individual thoughts, attitudes, preferences, expectations and evaluations.[5] They can influence not only how we communicate something but also how we perceive and how we judge what we actually do. Therefore, the analysis of their differences will help us later to understand how they shape the form and the content of our practices and legal practices in particular. On this basis it will be possible to explain how and why modern practices of managing legal information, the practice of drafting and interpreting legal documents, depend on the communication technology.

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[4] See A.J. Happ, and S.L. Stanners, *Effect of Hypertext Cue Presentation on Knowledge Representation* [in:] "Proceedings of the Human Factors Society 35th Annual Meeting" 1991, pp. 305–309; F. Calisir, Z. Gurel, *Influence of Text Structure and Prior Knowledge of the Learner on Reading Comprehension, Browsing and Perceived Contro*, "Computers in Human Behavior" 2003, vol. 19 (2), pp. 135–145; M.F. Mohageg, *The Influence of Hypertext Linking Structures on the Efficiency of Information Retrieval*, "Human Factors" 1992, vol. 34 (3), pp. 351–367; T. de Jong, A. van der Hulst, *The Effects of Graphical Overviews on Knowledge Acquisition in Hypertext*, "Journal of Computer Assisted Learning" 2002, vol. 18, pp. 219–231; S. McDonald, R.J. Stevenson, *Effects of Text Structure and Prior Knowledge of the Learner on Navigation in Hypertext*, "Human Factors" 1998, vol. 40, pp. 18–28.

[5] Olson claims even that the emergence of writing conditioned the distinction between data and interpretation D.R. Olson, *The Cognitive Consequences of Literacy*, "Canadian Psychology" 1986, vol. 27 (2), p. 120.

Technology, knowledge management and cognition

From the psychological perspective different communication technologies are not fully interchangeable means of communication. They can determine the number and the type of available data and influence their perception, retention and comprehension.[6] They accumulate different amounts of information, they transmit it at different speeds and to different locations, and they provide different capacities for its accurate and fast reproduction, revision and modification.[7] Respectively, they can not only determine the evaluation of data's quality but also determine the individual level of need for cognition.[8] Thus, if one communication technology replaces another, the effect of such an action cannot remain neutral either to our cognition or to the processes in which we manage information. Empirical evidence shows that the appearance of handwriting, print or IT has each time caused a flow of essential changes in individual capacities and the enforced modification of human practices.[9] Different modes of communication imply after all not only different mechanisms of information transfer, but also different ways in which it is created, elaborated, stored, interpreted, analyzed and administrated. For example, speech warrants the fast transmission of the original text, but its scope is limited and locally bound to the place of its production. Handwriting, though, makes possible the transfer the information to receivers from any place, limits however significantly the transmission rate. More importantly, the quality of handmade copies rarely inspires the confidence of receivers. In this regard, electronic media established a completely new set of standards. They created brand-new conditions for transformation, multiplication and text correction. Moreover, since they have made audio-visual transmission possible, they may influence the practices of message production and the reason why the message can be persuasive.

From the point of view of knowledge transmission, it is crucial to notice that different media make different assumptions about communication process. It is obvious that television or print presupposes one-way communication, while

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[6] From the legal perspective it is important to notice that text comprehension is a multilayered cognitive activity that occurs in the context of limited-capacity working memory See J.-F. Rouet, J.J. Levonen, A. Dillon, R.J. Spiro, *An Introduction to Hypertext and Cognition* [in:] J.-F. Rouet, J.J. Levonen, A. Dillon, R.J. Spiro (eds.), *Hypertext and Cognition*, Lawrence Erlbaum Associates, Inc., Mahwah NJ 1996, p. 5; M.J. Wenger, D.G. Payne, *Comprehension and Retention of Nonlinear Text: Considerations of Working Memory and Material-Appropriate Processing*, "The American Journal of Psychology" 1996, vol. 109, no. 1, pp. 93 ff.

[7] E. Katsh, *op.cit.*, pp. 21 ff.

[8] See more J.T. Cacioppo, R.E. Petty, *The Need for Cognition*, "Journal of Personality and Social Psychology" 1982, vol. 42 (1), pp. 116–131.

[9] For more see: J. Goody, *The Logic of Writing and the Organisation of Society*, Cambridge University Press, Cambridge 1986; J. Goody, *The Interface Between the Written and Oral*, Cambridge University Press, Cambridge 1987; R. Chartier, *Forms and Meanings: Text, Performance, and Audience from Codex to Computer*, University of Pennsylvania Press, Philadelphia 1995; M.T. Clanchy, From *Memory to Written Record*, MA. Harvard University Press, Cambridge 1979; E. Eisenstein, *The Printing Press as an Agent of Change*, Cambridge University Press, New York 1979; M. McLuhan, *Understanding Media*, McGraw-Hill, New York 1979.

speech, telephony, or speech recognition systems imply an interactivity of communication and presuppose its immediacy though not always its directness. It shows that some communication technologies make it possible to separate information from the time and context in which the original message was produced, while others are unable to do so. This has substantial consequences both for how we perceive the information and how we manage and evaluate the acquired knowledge. Hence, while some media will strengthen the human potential to aggregate knowledge in a durable and controllable way, others will not, for example the relation between communication technology and the management of knowledge in linguistic practices.

It is a commonly shared belief that the very distinction between *langue* and *parole* has been made possible thanks to writing. Without writing it would not only be technically difficult to disconnect language from concrete and individual utterances, but it would also be difficult to imagine a practical possibility and a theoretical need for such a distinction. Writing makes it possible not only to formalize but also to describe the language. Furthermore, it conditions the appearance and functioning of several formal categories and abstract notions. For example, since it enables us to differentiate between the actual meaning of the utterance, and the possible meaning of its formal representation, it determines the possibility of conceptual distinction between the utterance and the sentence. Therefore, writing promotes a stable categorisation of reality, and facilitates its critical analysis. In this way it supports the forming and managing of rigid and autonomous linguistic practices. It offers also a permanent recording of idiolects, enabling the investigation of the systemic nature of vernacular. In this way it conditions the creation of institutional standards of language. The availability of print contributes to this process substantially since, unlike speech, the production of script cannot be easily monitored. The permanent and efficient control of handwriting is far more difficult and costly. The process of printing makes the external and institutional control of the script quality easy. Moreover, it enables editing the text in a way undetectable for readers. Therefore, it can create an illusion of the existence of commonly shared standard of linguistic practices and put psychological pressure on text users to adjust their individual practices to the institutional standard of language usage.

Taking all of this into account, one can see that communication technologies involve distinctive knowledge management practices both on the level of code and of its usage. It shows that communication technology has the potential to determine the mechanisms of the institutionalization and standardization of human practices even on the most basic level. This in turn can contribute to the evolution of human capacities and the perception of reality. The abovementioned example shows that writing and particularly print are responsible for representing knowledge as a system of sentences. Consequently, knowledge defined as a system of sentences, unlike knowledge defined as an acquaintance or familiarity gained by sight or experience, could claim its cognitive autonomy. The first does not need to be either sponsored by the concrete author or be directed to the concrete addressee. Consequently, it urges its own existence supported by the physical barrier that makes any external influence on its form and content impossible. The second excludes most of what was aforementioned. It immanently

implies the presence of those to whom it is addressed and in its essence is always "sponsored" by a concrete individual. Consequently, one could expect that the evaluation of knowledge in the first sense will depend exclusively on the quality of argument yet, in reality, it is not necessarily so. The evaluation of knowledge depends on an individual level of need for cognition.[10]

Petty and Cacioppo's experiment indicates that there are two different routes through which a message can be evaluated: the central and the peripheral. While the first requires careful consideration of the arguments quality, the second does not demand critical processing. Consequently, contrary to the peripheral route, the central route expects from the receiver involvement and competence. The Petty and Cacioppo's research shows that when people lack motivation or skills they tend to engage in an easier and more superficial processing of information. In this case they are less sensitive to the argument's quality and are much more responsive for peripheral cues like, i.e. attractiveness of presentation or credibility of the speaker. If it is the case that the mode of communication can influence the evaluation of knowledge, especially because they do not enjoy the same level of reliability, as well as the accuracy and effectiveness of knowledge transmission. In oral communities in particular the amount of information is limited by the efficiency of human memory supported by mnemonic techniques. Writing offers unlimited possibilities of data accumulation, and as such, makes it possible to refer to them in the future.[11] Therefore, writing enables the expansion of knowledge beyond the local needs that determine existence of particular group and enhances the analytic nature of thinking.[12] Consequently, abstract notions, concepts and conceptions can come into being and obtain their own, permanent and autonomous existence.

However, the potential of handwriting to enrich knowledge is limited. Although it enables systematic observation and reliable comparative studies, it is slow, difficult to copy and does not provide easy access to recorded information. Therefore, it was the invention of print that increased the speed of social evolution. Furthermore, while print merely facilitated scientific progress, electronic media support the full realization of the analytical potential of the human mind. They make it possible to use different kinds of tools and methods of analysis. IT in particular not only accelerates the process of long text production, but also eases their interpretation by taking into account their full complexity.[13] Moreover, it communicates new findings to a wider audience more efficiently and overcomes the speed limits imposed on text production by writing or print. IT enables transmission in an entirely reliable manner (at least it is so believed) of

[10] See J.T. Cacioppo, R.E. Petty, *op.cit.*, pp. 116–131; J.T. Cacioppo, R.E. Petty, K. Morris, *Effects of Need for Cognition on Message Evaluation, Recall and Persuasion*, "Journal of Personality and Social Psychology" 1983, vol. 45 (4), pp. 805–818.

[11] J. Goody, I. Watt, *The Consequences of Literacy* [in:] J. Goody (ed.), *Literacy in Traditional Societies*, Cambridge University Press, New York 1968; J. Goody, *The Interface Between the Written and Oral*, Cambridge University Press, Cambridge 1987.

[12] A.R. Luria, *Cognitive Development: Its Cultural and Social Foundations*, M. Cole (ed.), M. Lopez-Morillas and L. Solotaroff (trans.), Harvard University Press, Cambridge Mass., London 1976, pp. 102 ff.

[13] More: R. Susskind, *op.cit.*, pp. 107 ff.

not only text or pictures but also the whole audio-visual context of the communication. It may influence both the perception and evaluation of a message. On this basis one can claim that the social and psychological significance of knowledge, its acquisition and transmission, depends directly on methods of storage, elaboration and administration of information.

As we can see, writing fundamentally changes the knowledge management typical for oral communication. The reason for this is the mnemonic and phonetic character of the later. Writing is graphic and therefore capable of consolidating knowledge beyond human mind. In this way it changes the status of knowledge characteristic for oral communication, and impels different cognitive processes.[14] It employs not only different senses but also changes the object of communication. What in the context of the conversation is individual, particular and concrete, in writing inevitably enters the realm of the official language of written records. Unlike speech, written text carries all possible information contained in the universe of the institutional language**.** As a result, on the semantic level, written text transmits much more information than one may have intended, while on the pragmatic level it communicates much less than what may have happened. What in speech is *implicit* yet still univocal, writing must be expressed explicitly. It is one of the reasons why communication mediated in writing focuses primarily on semantics and syntax. Otherwise, what in the context of conversation carries a concrete and undisputable meaning, in writing may embrace other meanings and sense, often contradictory with the original. Therefore, writing pursues the formalization of the communication and tends to separate it from extra-linguistic elements, which often condition the efficiency of speech. For example, while a silent spell in a conversation may be significant, it is not so in the case of writing. Even though there are some graphical forms used to express silence, they are nonetheless unable to carry out the performative effect they may have in oral communication. Writing deprives the act of speech of its illocutionary force**.** It stems not only from the fact that a transcript does not take into account many non-verbal elements present in face to face communication, but also from the fact that it is not backed up by any concrete reality, which constitutes a presupposed common framework of speech. This process goes even further when information is managed with IT. IT alters and reconfigures the reality described by language. They remove its original context and replace it with a virtual reality, which in the best-case scenario constitutes only a secondary and non-neutral interpretation of the former. In that way cognition becomes gradually separated from the substance of the world and reality. That, in turn, affects the semantic and syntactic stability of the language.[15]

Also, text analysis indicates important changes in knowledge management practices involved in text production when different modes of communication are employed. Some of them are psychologically significant. For example, as opposed to the written text, which is a finished product fixed on a carrier, a concrete oral utterance has a dynamic and fleeting nature. While speech is out of

[14] J.B. Gleason, N.B. Ratner (eds.), *Psycholingwistyka*, Warszawa 2005, pp. 447 ff.

[15] M. Poster, *The Mode of Information and Postmodernity* [in:] D. Crowley, D. Mitchell (eds.), *Communication Theory Today*, Polity Press, Cambridge 1995, p. 176.

necessity connected locally with the context of its production, the handwritten and printed texts, thanks to their autoglotic character, become a component of the cultural universe. They are detached from external reality and in its own structure appear to be independent and fully verbalized. Therefore, written texts can claim at least some autonomy while speech cannot. The latter is always connected with a specific situation, relations between participants, circumstances of its production and its function.[16] An oral utterance is produced here and now between concrete subjects. Individual utterances are relatively short and the whole text of communication is immanently open and often has neither a well-marked beginning nor an end. Taking advantage of the technical possibilities of the graphical record, written texts usually assume a continuous, uninterrupted, and unrestrained form. Consequently, the spontaneity and unpredictability of a conversation can be replaced by well-ordered content and a linear or hierarchical structure. Traditional written texts are physically closed. They have, at least formally, a noticeable beginning and an end, which in turn allow their synchronic conceptualization and analysis. However, it may not be the case of a written text which is mediated by electronic media, especially where linear structures of a handwritten or a printed text are replaced by multidimensionality and non-linear form of the Hypertext. From our perspective it is crucial to notice that Dee Lucas and Larkin's tests proves the relation between the text format and knowledge management.[17] Similarly Wenger's and Payne's experiment indicates that while written text presupposed a linearity of thinking, hypertexts support nonlinear and associative thinking.[18] These results are confirmed by De Jong's and van der Hulst's experiment, which shows the influence of the interface on the exploration route that readers follow in a hypertext system and on the memorization of facts.[19] In consequence, one can assert that an electronic form of a text introduces not only a range of new ways of managing the textual information, but also employs different cognitive mechanisms of human mind. From the knowledge management point of view the most important change that the hypertext format brings about is that it undermines the traditional distinction between the author and the reader.[20] Therefore, it revolutionises the traditional concept of text and assumptions about the way it *should* be written and read.[21] Another significant change that takes place in the cognitive aspect of knowledge management results from the fact that different communication technologies introduce and promote different types of interpersonal relationships. These types directly or indirectly bring to the cognitive processes different assumptions about interaction between individuals. For example, recorded information doesn't presuppose either the necessary presence of the reader in the process

[16] A. Wilkoń, *Spójność i struktura tekstu*, Universitas, Kraków 2002, pp. 36 ff.

[17] D. Dee-Lucas, J.H. Larkin, *Text Representation with Traditional Text and Hypertext*, Technical Report 21. Carnegie Mellon University, Pittsburgh PA 1992.

[18] M.J. Wenger, D.G. Payne, *op.cit.*, pp. 93 ff.

[19] T. de Jong, A. van der Hulst, *op.cit.*, pp. 228 ff.

[20] N.G. Patterson, *Hypertext and the Changing Roles of Readers*, "The English Journal" 2000, vol. 90, no. 2, Technology and the English Class, November, pp. 76 ff.

[21] J.M. Slatin, *Reading Hypertext: Order and Coherence in a New Medium*, "College English" 1990, vol. 52, December, p. 877; N.G. Patterson, *op.cit.,* p. 76.

of its production or the necessary presence of its author in the process of its transmission and reception.[22] Consequently, they replace one-on-one, concrete and direct interactions, so characteristic in a conversation, with indirect, impersonal or non-direct communication. It is because neither does the author need to see and know his readers nor do the readers need to see and know the writer. Print depersonalizes communication even further because it replaces individual handwriting with standardized letters. While handwriting personalizes the text in many respects,[23] print ultimately breaks the physical link between the text and the author. The next critical change in the relationship between the participants in the discourse results from the introduction of the electronic audio-visual media. By replacing the author with the sender, and readers with the audience, they break the original links between the author, the message and the reader. A sender no longer needs to be the author and, therefore, an audience becomes rather an object of his management than the addressee of the author's message.[24] Unlike speech, recorded communication requires a conceptualization of the receiver as the construct of the sender. Both the Internet and telephony have bypassed this problem to some degree. Although they allow interactive communication, they detach it from the common context of conversation. Telephony and electronic media of communication make communication possible regardless of the distance between the participants. However, they are still unable to provide the interlocutors with the direct physical access which is implied in speech. The lack of physical contact and the common context put communication in formal frames of one-way-transmission. It makes our interlocutors unreal and enhances the construction of their *image* in our mind. However, it is only IT that can substitute a real person with a virtual image and, therefore, differences between face to face communication and IT communication go far beyond the dislocation of interlocutors. IT not only allows the receiver to evaluate calmly the contents of the message without the first-hand supervision and control on the part of the sender. It also interacts with human personality and releases individuals from psychological restrains, which usually control their behaviours in face to face interactions.[25] Communication on the Internet results in the diminution of the importance of physical appearance, greater anonymity and provides interlocutors with greater control over the time and pace of interactions. Moreover, it helps to find similar others.[26] In consequence, it creates an illusion of homogenization of

[22] Por. B.S. Jackson, *Making Sense in Law*, Deborah Charles Publications, Liverpool 1995, pp. 83 ff.

[23] See A. Lüke, *Grafologie für Einsteiger*, Ariston Verlag, Genf 1983.

[24] D. McQuail, *Mass Communication Theory. An Introduction*, SAGE Publications, London et al. 1988, pp. 218 ff. Cf. J. Ellis, *Channel 4: Working Notes*, "Screen" 1983, vol. 24 (6), p. 49; R. Silverstone, *From Audience to Consumers: The Household and the Consumption of Communication and Information Technologies* [in:] J. Hay, L. Grossberg, E. Wartella (eds.), *The Audience and its Landscape*, Westview Press, Colorado, Oxford 1996, pp. 283 ff.

[25] Y. Amichai-Hamburger, *Personality, Individual Differences and Internet Use* [in:] A.N. Joinson, K. McKenna, T. Postmes (eds.), *The Oxford Handbook of Internet Psychology*, Oxford University Press, New York 2007, pp. 188 ff.

[26] See more: *ibidem*, p. 187.

the society while in reality cause its fragmentation and diversification.[27] It challenges the traditional mechanisms of knowledge transmission and devalues the established practices of learning.

Summing up, communication technology influences the cognitive aspect in knowledge management practices. Taking the above into account one can argue that scepticism and a critical attitude appear not so much as inborn characteristics of the human mind, but rather as a result of permanent accessibility to the systematic record of information. Respectively, human cognition and communicative practices depend as much on human biological attributes as on the capacity of the medium to manage information.

Legal practice and knowledge management technology

The influence that communication technology has brought to bear on law and the administration of justice is multidimensional, but not fully recognized by legal thinkers. Therefore, the issue does not fit into the mainstream considerations of legal theory and the philosophy of law. One can even claim that the practice of law is immune to the developments of technology and it is the role of law makers to adjust it to the changing reality. However, considering that communication technologies change human perceptions of time and space,[28] restructure the reality to which law refers, and provide lawyers with different means of its interpretation and communication, I will argue that they inevitably alter both the way lawyers conceptualize law and how they make and apply it. Respectively, the following argument constitutes an attempt to show that communication technologies may determine the legal conceptual apparatus, and that their impact on human cognition forces the practice of law to adjust and stay in line with the standards of knowledge management they impose. On this basis some basic legal concepts and practices are examined in order to show that different modes of communication, through their influence on human cognition, may determine the evolution of legal institutions.

Immanent characteristics of each communication technology induce gradual and inevitable evolution of the legal discourse. They alter the law subtly and slowly; therefore, the change is often imperceptible or unquestioned yet they condition the whole of legal practice. Law – whatever it is – must be communicated. This requirement makes law dependent on communication technologies, which determine a series of inherent requirements the law must comply with in order to be able to play its social function. In practice it results in many differences in legal discourses carried out by different media. In a word, the communication technology and IT available conditions not only the practice but also the theory of law.

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[27] E. Katsh, *The Electronic Media and the Transformation of Law*, Oxford University Press, New York, Oxford 1989, p. 105.

[28] On the impact of the concept of space on law see D.R. Johnson, D. Post, *Law and Borders: The Rise of Law in Cyberspace*, "Stanford Law Review" 1996, vol. 48, no. 5, May, pp. 1369 ff.

Legal anthropology clearly indicates that the invention of writing initiated a series of conceptual changes in law. Writing increases the tendency of human intellect for the abstract and generalization and, therefore, determines not only the form, but also the content of legal rules. In illiterate societies rules have to be memorized and, therefore, they take the form of proverbs or formulas that ease the process. The art of writing made possible a formal and critical drafting of provisions. Spontaneous changes, so characteristic of laws of illiterate societies, become restrained. In oral societies they usually result from imperceptible processes where a legal practice adjusts spontaneously to the changes, which occur in the reality of a given community. In such a context, practices which lead to an anomaly tend to be forgotten and removed or adjusted to the new situation without the necessity to launch any special formal procedures. In a system of written and printed laws the situation is quite opposite. A legislative decision must be taken to remove, or to change the practice based on ineffective or inadequate regulations.

The way in which the practices are communicated changes not only the management of legal knowledge but may alter the human perception of its normative and authoritative status. For example, the oral transmission of customs makes them unreflective and open to spontaneous change. Its validity and reliability depends on the prestige of leaders. In contrary, written laws are based on reasoned principles and doctrines and its validity depends on the formal procedure of knowledge transmission. Therefore, without a written record, a sharp distinction between *ius* and *lex* or customs and customary laws is hardly possible. An analogical change in the status of legal knowledge takes place when handwritten legal records are replaced by printed documents. The reason for this is a limited access to the former,[29] and the low credibility of their copies. Therefore, it was only the invention of print, which could overcome the original distrust toward handwritten legal texts and enhanced the process of their codification.[30] Paradoxically, nowadays when IT enables the fast production and reproduction of texts, handwritten texts have in certain contexts a higher reliability than printed or electronic documents. With the expertise of modern graphology, a handwritten text can disclose implicit information about its author, his character and mood, which printed or electronic versions are not able to do. Moreover, it is much more difficult to falsify a hand written document. These are one of the reasons why in many contemporary legal systems testaments are handwritten and printed or electronic forms are not accepted. However, taking into account the qualities of audiovisual record, it is possible that testaments in this form will in near future join handwritten ones.

When a new communication technology enters into the legal practice it gradually and inevitably transforms the management and the perception of its object. It does not necessarily replace old institutions and sentiments bound by pre-existing modes of communication, but it supplements them or re-adjusts their functions to the new conditions and setup. Therefore, the psychological need for

[29] Originally handwritten statutes were often promulgated orally.

[30] See more D. Pietruch-Reizes, *Rozwój środków przekazu informacji o prawie*, Śląski Instytut Naukowy, Katowice 1992, pp. 157 ff.

certainty and truth, which in primordial societies was expressed in special magical rituals connected with the administration of justice, has not disappeared in literate societies, but underwent formalization and secularization. For example, in the Middle Ages, even in societies where written texts already had a predominant status, procedures existed which required their confirmation by witnesses, oaths or ordeals. For a long time, testimonies provided decisive evidence simply due to their certain status, and questionable credibility of scripts. Even though a written text could constitute an important source of evidence, it did not have a conclusive character.[31] A feeling of distrust towards a script underlies the appearance of the concept of a document, i.e. the authentic and certain text. A text can only become a document if it possesses all of the formal qualities required by law. It provided a reason for development of material and procedural rules which regulated the authenticity of documents. Practice has shown that until those rules were introduced, the legality of written records could always be challenged.[32]

It has already been indicated that the graphic record disconnects the text from the context of its production, especially from its author. When separated from the subject and recorded**,** a text can become an autonomous object of critical interpretation. Respectively, written records can stand for an objective and even exclusive point of reference in the evaluation of their content. Therefore, whenever a rule is fixed or recorded, cognition focuses on its semantic and syntactic aspects. Moreover, its structure and content becomes subjected to the formal requirements of a written format, and the conditions of its explicitness, unambiguousness and comprehensibility. After all, a written text cannot answer questions if a controversy arises with respect to its meaning. It is why writing imposes not only specific requirements with respect to its language and structure on a legal act but also with respect to its interpretations. In consequence, a written record conditions a need for the emergence of professional legislators and interpreters. However, when prepared by specialists, legal texts become fully intelligible only to those who possess special skills. The practice of written law requires on the part of an individual literacy and ability to think in categories implied by the system of abstract rules. It is so, because until laws were written down, rules could exist only in the human memory. Writing frees our mind from the need to remember laws, but forces us to develop new mental abilities that make the management of a growing set of general rules possible**.** Moreover, because it provides a possibility to accumulate a virtually unlimited number of rules, it makes legal practice sensitive to the problems of legal inflation and of cognitive overload.

When a rule is written down and fixed in a form of a legal provision, it becomes its own entity, and therefore a separate object of cognition**.** This process enables a separation of the written body of law from social practices. Consequently, law can be conceptualized as an instrument of adjudicating cases, and less a practice

[31] See W. Daves, *People and Places in Disputes in Ninth-century Britain* [in:] W. Davies, P. Fouracre (eds.), *The Settlement of Disputes in Early Medieval Europe*, Cambridge University Press, Cambridge 1986, p. 75.

[32] See R.C. Van Caenegem, *Legal History: A European Perspective*, The Hambledon Press, London, Rio Grande 1991, p. 80.

of solving problems. In this way writing contributes to the depersonalization of law and to the inflexibility of legal sanctions.[33] Legal language becomes a distinctive register of a language and legal epistemology begins to operate in terms, and within the borders, of statutory regulations. It results in further professionalization of legal practices. Accordingly, the topical and problem-oriented character of legal thinking is being replaced by the formal requirements of deductive reasoning.

The emergence of writing and print make the self-referential character of law and legal discourse possible, though it is only IT that can make law truly an autopoietic system.[34] The possibility to fix and to visualize rules formalizes and institutionalizes the management of legal information. On the psychological level, it conditions the emergence of general and abstract legal concepts and, therefore, suppresses particularity and originality of thinking. In this way script and print also support the legalistic attitude of legal practitioners. This process becomes fully observable especially when legal documents get printed. The growing availability of statutory regulation and courthouse records opened the practical possibility to refer to them and to take them as an exclusionary reason in legal decision-making. The unrestrained availability of authentic legal texts made it possible to support verdicts with formal rules. On the one hand it could have had a therapeutic effect, because it released judges from the moral and social responsibility for their decisions. On the other hand law and legal practice could claim objectivity and certainty inaccessible before the era of print.

In our days, legal discourse is gradually opening up to knowledge management systems bound to electronic means of communication. As in case of handwriting and print before, they also alter nowadays the way in which legal documents are drafted, and how legal services are provided. However now, for the first time, legal knowledge and human cognitive processes are determined and structured *actively* though interactions with electronic legal databases. In this way legal practice has become more dependent on the logic of information technology and on specialists' knowledge from outside the legal domain. Moreover, new technologies, like mobile telephony or the Internet have changed clients' expectations and consequently forced legal practitioners to adjust to new possibilities and to change the traditional form of legal services. This has resulted in the development of legal practices, which like the already mentioned on-line legal services are heavily dependent on the standards imposed by IT.

The change in psychological processes triggered by different communication technology also impacts on the human understanding of notions functioning in the legal discourse. In particular, differences in the form and the content are visible when comparing oral contracts and/or testaments with written and/or with electronic ones. Although both institutions are known in illiterate societies,

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[33] N. Rouland, *Legal Anthropology*, Ph.G. Planel (trans.), Stanford University Press, Stanford 1994, p. 170.

[34] H. Maturana, F. Varela, *Autopiesis and Cognition*, Reidel, Bostot/Dordrecht 1980, pp. 89 ff.; N. Luhman, *The Autopoiesis of Social Systems* [in:] F. Geyer and J. van der Zouwen (eds.), *Sociocybernetic Paradoxes. Observation, Control and Evalutaion of Self-steering Systems*, Sage, London 1986, p. 174; G. Teubner, *How the Law Thinks: Toward a Constructivist Epistemology of Law*, "Law and Society Review" 1989, vol. 23 (5), pp. 727–757.

it was the introduction of writing that externalized the elements of contracts and wills, which in the oral tradition operated as hidden presuppositions. The graphical form gave a legal statement a stable, externally cognizable foundation. Records enable parties to appeal or to refer to the text of the statement, whenever necessary. In this way the semantic meaning of the text of a contract or a will become conclusive and can determine the range of possible and admissible interpretations. Respectively, the handwritten form not only broadens the scope and range of elements which characterizes these institutions in oral societies, but also practically enables their diversification and increases the degree of their complexity.

There are different types of contracts found in illiterate cultures. However, their nature, forms and functions depend on the memory and longevity of eyewitnesses. These biological limitations are often recognized by parties of the contract themselves. The impossibility to record the contract narrows down the variety and the complexity of contracts and induces specific forms and customs whose aim is to limit the disadvantages of human memory. Furthermore, in oral cultures, the role of speech goes beyond the role of carrying the message. Speech in oral communities often carries a much more important mystical or affective charge, which in turn results in particular rituals and practices.[35] The handwritten form makes these practices obsolete and focuses attention on the content of a contract. As a result, contracts began to contain detailed clarifications, explanations or definitions, which were missing in the oral tradition. In this way script altered the whole practice of making contracts and established very different standards with respect to its form and content. Even on the symbolic level, an act of signing the agreement replaced other symbolic forms characteristic for illiterate cultures, like the adjudication or the handing over a sod of earth. Electronic media have brought about an analogous change. For example, contracts mediated by an electronic medium often lack the negotiation stage and a formal signing. The whole process of making an agreement is limited to a "click," which implies acceptance of the provisions of the contract as proposed by the seller.[36] Respectively, agreements become remote from human agents and it is the software that controls its proper execution, i.e. it limits the possibility of an unlimited copying of a program, or its illegal or harmful use. This implies not only a change in the agreement form, but also the need to alter the contract concept. New contracts create not only a bunch of obligations and duties of the contractors, but "physically" enforce their own execution in line with their own provisions.

The strong influence of communication technologies is also visible in other legal institutions. For example, drafting the testators' will in writing enables a series of different types of testaments. Moreover, it is not only more difficult to challenge the handwritten will before the court, but the written form makes it possible to achieve the precision of the will otherwise unattainable. Writing and especially printing brought fundamental changes also to the management

[35] See more N. Rouland, *op.cit.*, pp. 140 ff.

[36] See Z. Bańkowski, B. Schafer, *Double-Click Justice: Legalism in the Computer Age*, "Legisprudence" 2007, vol. 1 (1), p. 48.

of the litigation process, and conflict resolution.[37] A written record, if reliable and accessible, not only formalizes the entire decision-making process, but also makes it easy to decide about relevance of certain pieces of evidence. An objective and formalized examination of a witness' testimony is unquestionably a lot more difficult than in the case of written documents. Testimonies of witnesses are not only often inconsistent with each other, but are also vulnerable to a process of emotional formation.[38] The written record makes possible the creation of evidence which exists independently from the memory of individuals. Consequently, accessibility of reliable written documents does not only restrict the area of possible disputes, but also changes the overtones in probative proceedings. A further improvement in this respect is offered by audiovisual media, which provides a judge with "direct" access to the event under examination. The intrinsic credibility of an audio-visual transmission allows the new multimedia form of evidence to enter the courtrooms much easier than was the case with hand written texts. This is no longer the result of the low credibility of the script but the capacity of electronic media to transmit sound and the vision. They provide the judge with more data than written documents and facilitate the decision making process. Moreover, electronic multimedia create a practical possibility not only to see what really took place, but also provide a rich collection of efficient tools, which enable a detailed analysis of recorded information.

The more legal proceedings open up to the world of IT, the faster they will change the way the law is practiced. For example, if we take into account how the modern concepts of appeal or cassation are conditioned by the availability of written records, one can expect that audiovisual records will also change both institutions. The formalization and depersonalization of the legal process resulting from the emergence of written records was followed by the bureaucratization of the administration of justice. Electronic multimedia are in a position to keep the legal process formalized and standardized to the highest degree without making it necessarily bureaucratic. Firstly, because unlike written records, they make it possible to record the whole trial, including its non-verbal contexts and thus in case of an appeal, an audio-visual record will provide the higher court with a much more detailed picture of the situation than the written dossier could have ever done**.** Secondly, the computerization of legal proceedings limits the possibility of errors and physically force lawyers, or concerned parties, to follow procedures. If they don't comply, the procedure simply cannot be executed. Moreover, electronic technology enables the introduction of intelligent agents who can guide the concerned party through the complexity of law. The agent immediately provides all related legal data and gives an explanation if required.

Another domain of law which has undergone a massive change resulting from the introduction of writing to the legal discourse was property law. The introduction of writing fundamentally changed the legal practices with regard to the

[37] For example a possibility to procure an authentic record of a trial changed the whole idea of an appellation. The legal process and judicial decisions become formalized and standardized. As a result, a dispute as well as content and form of the judicial process, can be submitted to a process of external control and supervision.

[38] A. Memon, A. Vrij, R. Bull, *Prawo i psychologia. Wiarygodność zeznań i materiału dowodowego*, GWP, Gdańsk 2001, pp. 140 ff.

administration of real estates. It made it possible to create legal registers in which rights or titles relevant to a real estate could be recorded. Consequently, a number of legal institutions were created which enabled the efficient legal turnover of real estates. One can mention here public notaries, mortgage laws or land securities. Writing caused an analogical change in family law. A formal definition of marriage and written rules for family law justify the distinction between a marriage and other relationships relating to the category of illicit cohabitation. A direct consequence of this change created a problem concerning the legal status of children born from such relationships. Nowadays electronic means of communication also put pressure on family law, however, in this case it is so because they have changed the concept of cohabitation and traditional sexual practices.[39]

Conclusion

Of course there are many more examples which are able to illustrate the impact of knowledge management mechanisms used by different communication technologies on human cognition and human behaviour. However, the ones discussed above already show that different media induce different cognitive processes and therefore offer different potential to create a space for the development of legal practices. They impose different constraints, requirements and standards on legal knowledge representation. They make it possible to detach legal practices from the concrete place and time. They can imply the directness and locality of legal communication, or they can dislocate legal actors. Some of them, like IT, can even create a new, entirely virtual legal reality. Finally, different communication technologies implicitly carry a number of different supplementary information,[40] which may in an imperceptible way influence our perception and understanding of transmitted data. For lawyers, all this means that technology employed to manage legal knowledge should be taken seriously. It implies not only very different mechanisms for transmitting legal information, but also opens divergent ways of perception and the administration of legal knowledge. Lawyers should be aware of the fact that certain communication technologies may trigger special mental processes and focus our perception on different issues. In this way, directly or indirectly, they may determine the significance of legal information. Consequently, they may condition not only the evolution of legal practices, but often their creation. If this is the case then IT will challenge the traditional practices of legal knowledge management and will create pressure to adjust them to the new framework.[41]

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[39] See more B. Creed , *Media Matrix. Sexing the New Reality*, Allen and Unwin, Crows Nest 2003, pp. 122 ff.; L. Parisi, *Abstract sex: Philosophy, Bio-Technology and the Mutation of Desire*, Continuum, London 2004, pp. 5 ff.

[40] D. Riesman, *The Oral Tradition, the Written Word and the Screen Image*, Antioch Press, Yellow Springs, Ohio 1956, pp. 12 ff.

[41] More: D. Rowland, E. Macdonald, *Information Technology Law*, Cavendish Publishing Limited, London, Sydney 1998.